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Research Article

Green Brand Products in Small and Medium Batik Industries with Pls-Sem Approach

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Abstract

This study examines Regiocentric Image Capabilities and Market Penetration on Green Products and the effect of Green Products on Marketing Performance. The sample in this study were 58 entrepreneurs of Small and Medium Batik Industries, who used natural colouring. The sampling technique used was purposive sampling, and the analysis technique used was PLS-SEM. The study found that Regiocentric Image Capabilities and Market Penetration significantly influence the Green Products, and it has a significant effect on Marketing Performance. Moreover, Green Brand Image does not influence a significant increase in Marketing Performance. These results indicated that Regiocentric Image Capabilities can enhance the capability of green product innovation with environmentally friendly natural colouring. The product is also supported by a broad market penetration capability. Furthermore, Green Brand Image on batik colouring products has no significant effect on marketing performance. The focus on green products appears so that the SMIs can increase marketing of environmentally friendly batik products.

Keywords: *Marketing Performance; Green Brand Products; Market Capabilities; Green Brand Image; Innovation*

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INTRODUCTION

Indonesia has potential players in small and medium industries that have superior batik products and are well known in the national and global markets. In line with the growth of batik export market, the Government continues to provide training on design, production processes, and sustainable colouring.

Based on the data, the income of batik export in Central Java is declining because some regions such as Brebes, Tegal, Semarang, Pati, Rembang, and Kudus use synthetic colours for batik production. Such batik cannot be claimed as a green brand product.

The novelty of this research is the use of natural colouring in batik in Small and Medium Industries. Such batik is, therefore, called a green brand product. (Cretu & Brodie, 2007); (Padgett & Allen, 1997). Understanding green brand image is to realize that the perception of consumer brands commitments is related to environmental issues.

RESEARCH METHOD

The sample of this study were 58 entrepreneurs of Small and Medium Batik Industries in Klaten and Solo, Central Java, Indonesia. This study is an explanatory research. The population in this research is the owner of Small and Medium Batik Industries that produce batik with natural colouring or green brand product. The samples in this study were 115 people who then taken as much as 58 people using purposive sampling techniques. The analysis used is PLS-SEM.

Table 1 describes Research Variables and Indicators, Table 2 describes the characteristics of the respondents, including gender, age, marital status, education, domicile, years of service, and earnings. As Table 2 demonstrate, 58.60% of workers are women; 41.40 are male; 51.72% aged more than 40 years old; 94.80% are married; 63.70% are elementary school graduates.

Table 1. Research Variables and Indicators

Variables	Type of Variables	Indicators
Regiocentric Image Capabilities	Independent	Guarantee the high quality of batik products with superior colouring.
Market Penetration	Independent	Capable of maintaining the reputation or prestige of green batik product with
Green Brand Image	Independent	Capable of raising the image of green batik products with natural
Green Product Innovativeness	Independent	Capable of promoting green batik product that does not harm the environment;
Marketing Performance	Dependent	Capable of increasing sales value; improving sales profit; increasing sales volume; increasing sales growth

Source: Processed Primary Data, 2018

Table 2. Characteristics of Respondents

Characteristic of Respondent	Total	Proportion (%)
Male	24	41.40
Female	34	58.60
Total	58	100.00
<30-34 years old	8	13.80
35 -39 years old	20	34.48
>40 years old	30	51.72
Total	**58**	**100**
Married	55	94.80
Not married	3	5.20
Total	58	100
Elementary school graduates	37	63.70
Junior high school graduates	10	17.20
Senior high school graduates	8	13.80
Diploma graduates	3	5.30
Total	**58**	**100**
Business period >3 years	10	17.30
Business period 4-7 years	29	50
Business period 8-11 years	17	29.30
Business period >11 years	2	3.40
Total	**58**	**100**
Income <10 million	40	69
Income 11-15 million	6	10.40
Income 16- 20 million	8	13.70
Income >20 million	4	6.90
Total	**58**	**100**

Source: Processed Primary Data, 2018

RESULT AND DISCUSSION

Table 3. Quadrat Value Source AVE (Average Variance Extracted)

	AVE	Cronbach Alpha
KIR	0.687	0.794
MP	0.530	0.772
GB	0.794	0.937
GP	0.534	0.581

Source: Processed Primary Data, 2018

Table 4. Composite Reliability

	COMPOSITE RELIABILITY
KIR	0.867
MP	0.846
GB	0.950
GP	0.769

Source: Processed Primary Data, 2018

Table 5. Cronbach Alpha

CRONBACH ALPHA	
KIR	0.794
MP	0.772
GB	0.937
GP	0.581
KP	0.677

Source: Processed Primary Data, 2018

Table 6. R-Square *Value*

Green Product Innovativeness	0.457
Marketing Performance	0,566

Source: Processed Primary Data, 2018

The Influences of Regiocentric Image Capabilities on Green Product Innovativeness

A product's excellence is the product capabilities superiority or the higher distinction compared to the competitor products (Henard & Szymanski, 2001). Further elements of product excellence are uniqueness, value, and benefits which can be given in terms of the aspects of the company to the customer, based on necessity and desires of the customer and the subjective factor, i.e. the preference of a unique product. One of the main factors that can support the success of a product is the superiority of a product or the product competitive advantage compared to other products. Superior products are unique and have a high value for the customer that can determine their victory or defeat on the market (Cooper, 1994).

Understanding Green Product Innovation Capability is a factor that determines the success of green products innovation that is environmentally friendly and is an important aspect considered by an organization or companies in strategic decisions.

Table 7. Path Coefficients (Mean, STDEV, T-Values)

	Original Sample (O)	*Sample Mean (M)*	*Standard Deviation (STDEV)*	*T Statistics (|O/STDEV|)*	*P Values*
KIP → GPI	0.181	0.167	0.218	2.829	0.003
MP → GPI	0.342	0.349	0.211	2.620	0.000
GPI → KP	0.514	0.505	0.153	3.364	0.001
GBI → KP	0.075	0.098	0.146	0.515	0.607

Source: Processed Primary Data, 2018

Table 8. Hypotheses Summary Result

Hypotheses	**Coefficient**	**Significance Level**	**t-table**	**t-statistics**	**Results**
H1	0.181	5 %	1.980	2.829	Accepted
H2	0.342	5 %	1.980	2.620	Accepted
H3	0.514	5 %	1.980	3.364	Accepted
H4	0.075	5 %	1.980	0.515	Rejected

Source: Processed Primary Data, 2018

The results of the research conducted by Ahmad Harfand 2016 showed that the capabilities were positive and have a significant effect on a product's excellence. Based on table 6, the regiocentric image capability has a positive and significant effect with a correlation of 0.563 and a level of significance of 5%. This indicator has a strong relationship with green products.

Thus, it can be concluded that a better regiocentric capability can increase the green product innovativeness. The higher the green product innovations have a uniqueness or a quality of the product, the more it improves green products innovativeness.

The Influence of Market Penetration on Green Produk Innovativeness

Market penetration is the product of a company's marketing activities marked by the increase in speed and volume of the market control related to the size, development pace, and speed growth of the market (Tseng, 2014).

Understanding Green Product Innovation Capability is a factor in the success of innovation for green products that are environmentally friendly and is a crucial aspect to be considered by an organization or companies in strategic decisions. This aspect can be carried out by 1) undertaking product innovation using friendly features; 2) performing product innovation by providing a comfortable and secure environment; and 3) applying innovation that builds upon the principle of natural resources protection, sustainability, and green products (P.M., A.H., & U.P., 2013).

The results of this research were acceptable or supportive, which indicated that there was a positive influence and significance towards green product innovativeness. The results of this research showed that there was a positive and significant influence on the effect of market penetration on green products innovativeness with coefficient amounting to 0,514.

This results supported the research findings which stated that more than half of all the global trade going on with trade agreements between countries in the sphere of regional studies (on three ASEAN countries, namely Indonesia, Thailand and Malaysia), is motivated by domestic products based on geocentric attachment (Vetter, Seidenfuss, Hösli, & Lapaire, 2015).

The Influence of Green Product Innovativeness on Marketing Performance

a. Construct Validity

The validity of invalid constructs measures up to how far the indicator capable of reflecting the latent invalid constructs from the theory. Therefore, the validity of invalid constructs provides confidence that the size of the sample taken from the indicators describing the actual score in the population. There are four sizes of the validity of invalid constructs that can be used, namely convergent validity, variance extracted, construct reliability, and discriminant validity.

The results of this research were acceptable or supportive, which suggests that there was a positive and significant influence on green product innovativeness. The results of this research

showed that there was a positive and significant influence on green product innovations and marketing performance with coefficient amounting to 0,342.

b. Convergent Validity

Convergent validity is fulfilled if the loading factor significant since loading a significant factor could be still lower in value. Thus, *a standardized estimate* must be equal to 0.50 or higher and should ideally be 0.70. Below is a table component *standardized* loading estimate. (Table 9)

Based on the table below, it can be seen that the item of an indicator KIR4, KP3, and KP4 has value factor loading below 0.50. Therefore, the indicator items are unfit for use. The following table presented the loading factor (*convergent validity* valid), AVE, *construct reliability*, and *discriminant validity*. It can be seen that the average value of the *loading factor* on each item indicator has to be suitable for the criteria, i.e. above 0.50.

c. Variance Extracted

Variance extracted showed the number of variance indicators on the extraction by variables, which are being developed. The high value of the *variance extracted* showed that the indicators have been represented in both variables, which are being developed. Based on the table above, it can be seen that from the outcome *variance extracted*, all the AVE has a value of invalid constructs because it has been an eligible *cut-off value* that is equal to or above 0.50

d. Construct Reliability

Reliability is one of the indicators of *convergent validity*. Many also use *Cronbach Alpha* as a measure of reliability even though *Cronbach Alpha* is giving lower reliability. Based on table 7, it can be seen that the value of the composite reliability on each variable is > 0.7, and the value of *Cronbach Alpha* on each variable is < 0.7. Therefore, it can be concluded that the data used in this study is reliable.

e. Discriminant Validity

Discriminant validity is a test to prove whether the invalid constructs are valid variable or not. The following is the result of the correlation between the output of invalid constructs variable.

Table 9. Standard Loading Table Estimate

	Loading Factors				
	Regiocentric Image Capa-bilities	Market Pen-etration	Green Brand Image	Green Product Innovativeness	Marketing Performance
KIR1	0.903				
KIR2	0.807				
KIR3	0.770				
KIR4	0.455				
MP1		0.609			
MP2		0.878			
MP3		0.789			
MP4		0.761			
MP5		0.552			
GBI1			0.955		
GBI2			0.902		
GBI3			0.870		
GBI4			0.866		
GBI5			0.858		
GP1				0.532	
GP2				0.860	
GP3				0.762	
KP1					0.900
KP2					0.835
KP3					0.459
KP4					0.355

Source: Processed Primary Data, 2018

Hypothesis Result Examination

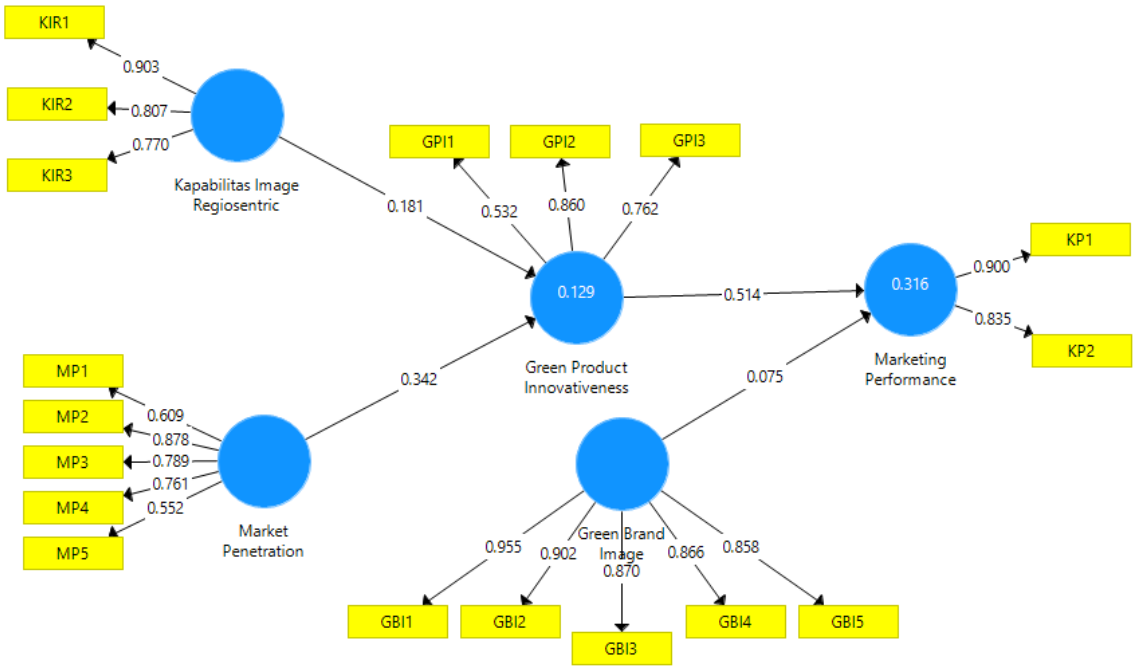

Figure 1. Result of PLS-SEM Algorithm
Source: Processed Primary Data, 2018

Based on Figure 1, note that the highest coefficient values for the Regiocentric Image Capabilities variable are the KIR1 of 0.903, which showed the strongest correlation of KIR1 compared to other indicators. The lowest value is the KIR3 of 0.770. The highest value of market penetration variable is the MP2 of 0.878, which showed the strongest correlation compared to other indicators. The lowest value is the MP5 of 0.552. The highest value of share green brand image variable is the GBI1 of 0.955, which showed the strongest correlation of GBI1 compared to other indicators. The lowest value is the GBI5 of 0.858. The highest value of green product innovativeness variable is the KPI2 of 0.860, which showed the strongest correlation of KPI2 compared to other indicators. The lowest value is the KPI1 of 0.532. The highest value of marketing performance variables is the KP1 of 0.900, which showed the strongest correlation of KP1 compared to other indicators. The lowest value is the KP2 of 0.835.

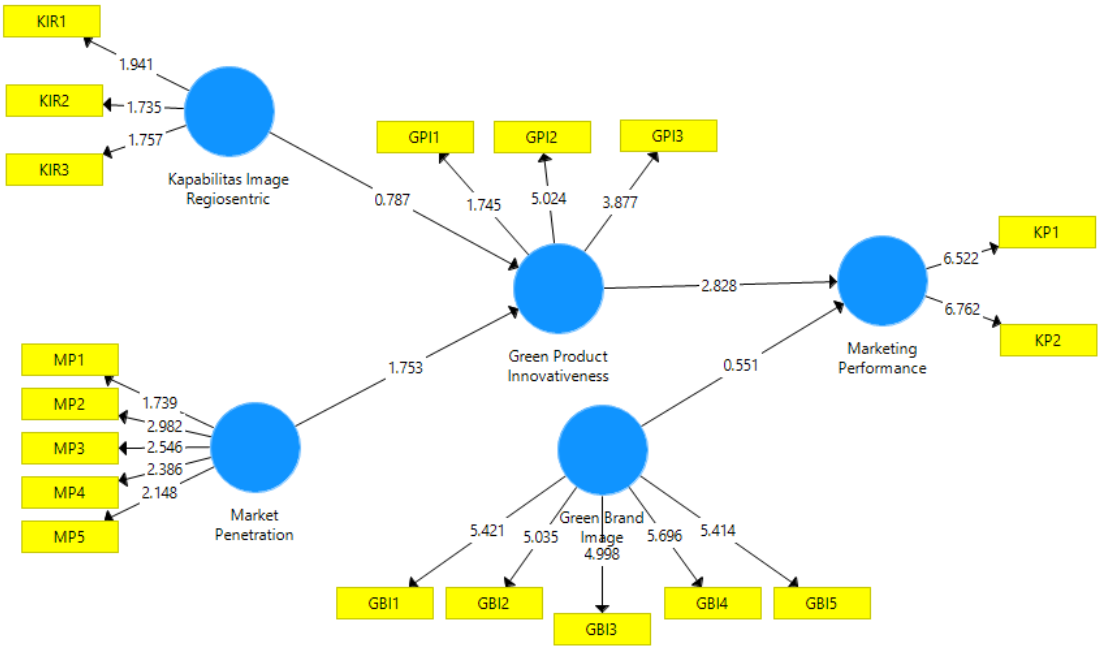

Figure 2. Bootstrapping Results
Source: Processed Primary Data, 2018

Based on figure 2 it can be seen that in the *bootstrapping* results, the highest value is green product innovativeness on marketing performance compared with a green brand image. The highest value that affects green product innovativeness is market penetration capability compared with the regiocentric image. Overall results influenced the positive value, which showed a positive influence. The results of hypothesis testing using PLS-SEM data obtained the following results:

f. Variance Extracted

Variance extracted showed the number of variance indicators on the extraction by variables, which are being developed. The high value of the *variance extracted* showed that the indicator have been represented in both variables, which are being developed. Based on the table above, it can be seen that from the outcome *variance extracted*, all the AVE has a value of invalid constructs because it has been an eligible *cut-off value* that is equal to or above 0.50.

g. Construct Reliability

Reliability is one of the indicators of *convergent validity*. Many also use *Cronbach Alpha* as a measure of reliability even though *Croncbach Alpha* is giving lower reliability. Based on table 12, it can be seen that the value of the composite reliability on each variable is > 0.7, and

the value of C*roncbach Alpha* on each variable is < 0.7. Therefore, it can be concluded that the data used in this study is reliable.

h. Discriminant Validity

Discriminant validity is a test to prove whether the invalid constructs are a valid variable or not. The following is the result of the correlation between the output of invalid constructs variable in table 13

i. Hypotheses Examination Result

Hypothesis examination is using data of SmartPLS by software that can be seen in Figure 3 below:

Table 10. Path Coefficients (Mean, STDEV, T-Values)

	Original Sample (O)	*Sample Mean*	*Standard Deviation (STDEV)*	*T Statistics (|O/STDEV|)*	*P Values*
KIP → GPI	0.181	0.167	0.218	2.829	0.003
MP → GPI	0.342	0.349	0.211	2.620	0.000
GPI → KP	0.514	0.505	0.153	3.364	0.001
GBI → KP	0.075	0.098	0.146	0.515	0.607

Source: Processed Primary Data, 2018

Regiocentric Capabilities Impact on Product Innovativeness

One of the main factors that can support the success of a product is the superiority of a product or the product's competitive advantage compared to other products. Superior products are unique and have a high value for the customer that can determine their victory or defeat on the market (Cooper, 1994). A product's excellence is the product capabilities superiority or the higher distinction compared to the competitor products (Henard & Szymanski, 2001).

Regiocentric is the product's excellence which offers an excellent product value from a company that focused on the area or region by using its superiority. The uniqueness of the product is not replaceable and act as an icon of a products region. Research by Siddiqi (1994) also find the importance of a broader perspective on regiocentric orientation.

Table 11. Hypotheses Summary Result

Hypotheses	P. Values	Notes
H1: there is an influence between regiocentric image capabilities and green product innovativeness	0.003	Accepted
H2: there is an influence between market pen-	0.000	Accepted
H3: there is an influence between green product innovativeness with marketing performance	0.001	Accepted
H4: there is an influence between green brand	0.607	Rejected

Source: Processed Primary Data, 2018

Understanding Green Product Innovation Capability is a factor in the success of innovation for green products that are environmentally friendly and is a crucial aspect to be considered by an organization or companies in strategic decisions. This aspect can be carried out by 1) undertaking product innovation using friendly features; 2) performing product innovation by providing a comfortable and secure environment; and 3) applying innovation that builds upon the principle of natural resources protection, sustainability, and green products (P.M. et al., 2013).

Market Penetration Impact on Green Product Innovativeness

Market penetration is the product of a company's marketing activities marked by the increase in speed and volume of the market control related to the size, development pace, and speed growth of the market (Tseng, 2014).

Understanding Green Product Innovation Capability is a factor in the success of an innovation for green products that are environmentally friendly and is an important aspect considered by an organization or companies in strategic decisions

Green Product Innovativeness Impact on Marketing Performance

Understanding Green Product Innovation Capability is a factor in the success of innovation for green products that are environmentally friendly and is a crucial aspect to be considered by an organization or companies in strategic decisions. This aspect can be carried out by 1) undertaking product innovation using friendly features; 2) performing product innovation by

providing a comfortable and secure environment; and 3) applying innovation that builds upon the principle of natural resources protection, sustainability, and green products (P.M. et al., 2013).

Marketing performance can be defined as a combination of marketing activities related to the sales growth achievement, increased sales volume, sales target achievement, and the increasing number of customers and sales expansion (Walsh, Lydon, & Healy, 2014).

Green Brand Image Impact on Marketing Performance

Green Brand products can be classified as the subjective perception of phenomena, a brand that is connected by a network or association in consumers' memory (D.Aaker, 1991) and as a description of a particular brand of consumer (Cretu & Brodie, 2007; Padgett & Allen, 1997).

Understanding green brand image is a consumer brand perception inside commitment relating to the environment and environmental problems Chen & Chen, 2008; Cretu & Brodie, 2007). Indicator of green brand image includes green batik products have committed to safeguarding the environment. Indicator from the green brand image are 1) Having a green batik product with environmentally friendly reputation 2) Successfully improve the image of environmentally friendly green batik products 3) Producing environmentally friendly batik products, and 4) Developing a green Batik product with vision and an environmentally friendly brand.

Marketing performance can be defined as a combination of marketing activities related to the sales growth achievement, increased sales volume, sales target achievement, and the increasing number of customers and sales expansion (Walsh et al., 2014). Indicators of Marketing Performance are 1) capable of increasing sales growth, 2) capable of increasing sales volumes, 3) capable of improving sales profit, and 4) capable of increasing the sales value.

This results suggests that although the image of a green brand is favourable, it is unable to improve marketing performance. This study explains that brand image has a positive effect on organizational or corporate performance. Different from this research, research from Schriber & Löwstedt, 2015 regarding the texture that includes mass products, this research study the dyeing of batik with natural colouring through a manual process.

Chen & Chen, 2008; Cretu & Brodie, 2007 stated that they committed to safeguarding the environment. Indicator from the green brand image are 1) Having a green batik product with environmentally friendly reputation 2) Successfully improve the image of environmentally friendly green batik products 3) Producing environmentally friendly batik products, and 4) Developing a green Batik product with vision and an environmentally friendly brand.

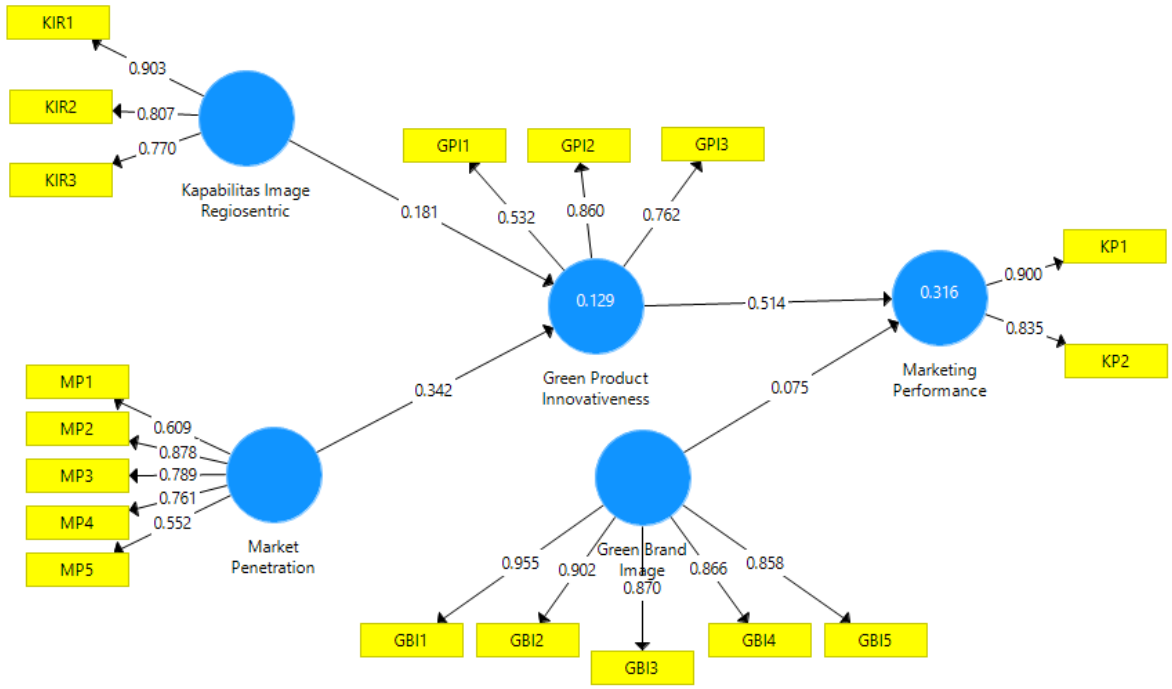

Figure 3. Result of PLS-SEM Algorithm
Source: Processed Primary Data, 2018

Based on Figure 3, it can be seen that the highest coefficient values for the Regiocentric Capabilities Image variable are the KIR1 of 0.903, which showed the strongest correlation of KIR1 compared to other indicators. The lowest value is the KIR3 of 0.770. The highest value of market penetration variable is the MP2 of 0.878, which showed the strongest correlation compared to other indicators. The lowest value is the MP5 of 0.552. The highest value of share green brand image variable is the GBI1 of 0.955, which showed the strongest correlation of GBI1 compared to other indicators. The lowest value is the GBI5 of 0.858. The highest value of green product innovativeness variable is the KPI2 of 0.860, which showed the strongest correlation of KPI2 compared to other indicators. The lowest value is the KPI1 of 0.532. The highest value of marketing performance variables is the KP1 of 0.900, which showed the strongest correlation of KP1 compared to other indicators. The lowest value is the KP2 of 0.835.

CONCLUSION

The research findings from five of the tested hypothesis suggests that Regiocentric Capabilities Image has significant effect against green product innovation;Market Penetration effect significantly to Innovation Capability Green products; Capabilities of green product innovation has a significant effect on marketing performance and Green Brand image has no effect on performance marketing. Capabilities of green product innovation have an attraction for batik customers with nature coloring, even though the price of the product is more expensive, it was able to improve the marketing performance. In addition regiocentric of Batik products including unique based on region Market Penetration can support the existence of an innovative green product so that it can expand its marketing batik product with natural coloring. Limitations of this research is just one object in one area of research is the owner of the small and medium Industries of Batik in the region of Klaten and analysis techniques used are PLS-SEM. Next to researchers who will need dating using some of the territory to be an object of research and a more comprehensive analysis techniques, namely Structural Equation Modelling (SEM).

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